



the CARRIER.....

Published Monthly by the Mount Diablo Amateur Radio Club

MDARC FIELD DAY CALL W6CX; 2M REPEATER W6CX/R 220 REPEATER W6CX/R MEMORIAL CALL SIGN W6LGW

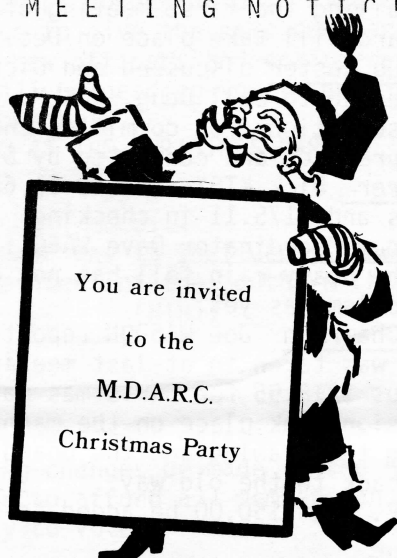
Volume XXIX

December 1981

No. 12

"ALL THE NEWS THATS FIT"

MEETING NOTICE



This month's meeting will not be held at our regular meeting place, as it is The Mount Diablo Radio Club's Christmas Party. If for some reason you have not made your reservations to come this year be sure to put it on the calendar for next December. A good time is always had by all. HAVE A REAL GOOD AND HAPPY HOLIDAY SEASON AND MAY THE NEW YEAR BE EVERYTHING YOU WANT IT TO BE.

Pleasant Hill Recreation Center
320 Civic Drive Pleasant Hill

ACTIVITIES

- Dec. 13 - Christmas Party - Door open 6:30 - Dinner served 7:15 P.M. Every family bringing children please bring gift with childs name on it.
- Dec. 14 - Board Meeting 8:00 P.M. Count O.E.S. Bldg. - 50 Glacier DR. Martinez - This is the first Board Meeting of the new Board. Everyone Is Welcome.
- Jan. 6 - R.A.C.E.S. Meeting 8:00 P.M. QTH OES Glacier Dr. Martinez
- Jan. 15 - General Meeting 8:00 P.M.
- Jan. 18 - Board Meeting
- Jan. 19 - New Ham classes start Tuesday 7:00 P.M. College Park High. More information in next CARRIER

Please make a note of the new zip code for M.D.A.R.C.
P.O. Box 23222
Pleasant Hill, CA 94523 0222

Thursdays 7:30 P.M.
Tech forum/Swap Net 147.66/06

Thursdays 8:30 P.M.
Contra Costa Emergency Net - 146.430 sim.

EDITOR: Dick Squires, KA6JGP P.O. Box 23222, Pleasant Hill, Calif. 94523 Phone: 686-9040

President.....	WB6NMU, Bill Leppard	2234 First St., Benicia, CA94510(707)	745-6200
Vice-President.....	WB6TEE, Don Peattie	2417 Lomond Ln., Walnut Creek, CA	94598 935-2636
Secretary.....	N6EJU, Dee Koester	438 Diablo Court, Martinez, CA	94553 228-8727
Treasurer.....	KT6X, Dick Brown	4125 Sacramento St., Concord CA	94521 687-9048
Emergency Coordinator..	WA6OFI Dave Greenhill	188 Brown Drive, Pacheco, CA	94553 686-6657
Board Member.....	K6XC Ron Luttringer	440 Diablo Court, Martinez, CA	94553 229-3987
Board Member.....	KD6DY Joe Campbell	3215 Caravelle Ct. Walnut Creek	94598 939-6567

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Next Board Meeting at: C.C. County O.E.S. Building, 50 Glacier Dr., Martinez, Dec. 14, 8 P.M.

DEADLINE FOR THE NEXT ISSUE: Articles, Classified Ads, etc. by December 30, 1981

MDARC GENERAL MEETING
Nov. 20, 1981

The meeting was called to order by our President Bill Leppard WB6NMU at 8:07 PM. The first order of business was a discussion on the cost of the Christmas party. A motion was made that there be a charge of \$4.00 per person. 13 for 19 against. M.M.S.P. that \$1.50 for adults and \$1.00 for children.

M.M.S.P. that the minutes stand as printed in the CARRIER.

Visitors for the evening were Bob, N6WG, Kent KA6OSX, Dick W6KYD, Brad N6BDE, Ron WA6JEF, Lloyd WA6AYV, Tula KA6MSX, Patrice N6DRW, KA6OIX, Becky and Sharron KQ6A. Welcome to all.

Vice President Don WB6TEE reports that the Auction was a huge success because of all the great help.

Secretary Dee N6EJU reports that more magnetic signs are available. 2 for \$15.00 or \$8.00 for one.

Announcement was made of the passing of David Dowell son of Charles Dowell WA6YVH. Our deepest sympathy to Charles and his family.

Treasurer Dick KT6X reports \$1,687.00 in savings.

Chuck Grant KB6UY reports classes going well. Thanks to Jim KA6PKA, Jim WA6ZFZ, John N6ELO, Rick NA6Q, Jay KT6Y.

Membership Chairman Frank N6GQ reports that we have 273 members at present time. GET CARDS AND MONEY IN EARLY.

Repeater New slate of officers voted in. Members encouraged to make their opinions known to repeater committee.

Discussion also took place on antenna situation.

Report given by Paul WB6DHH in the absence of Cecil N6EBQ.

Nomination committee Chairman Don W6EEN announced that 88 ballots were cast.

WINNERS ARE:

President: Dick Brown, KT6X, Vice President Don Peattie, WB6TEE, Secretary Dee Koester, N6EJU, Treasurer Nancy Hodgins, KA6IZI, E.C. Dave Greenhill WA6OFI, and Don Bertrand N6EEQ, Board Member. After a short break for coffee and cookies the meeting was called back to order and a most interesting, entertaining and informative demonstration was given on ATV by John Anslow WA6DPJ and Don Smith W6NKF. The meeting was adjourned at 10:37

Respectfully submitted,
Dee Koester N6EJU
Secretary

MDARC BOARD MEETING
Nov. 23, 1981

QTH O.E.S. 50 Glacier Dr. Martinez

The meeting was called to order by our President Bill Leppard, WB6NMU, at 8:08PM. Board Members present were Dick, KT6X, Don, WB6TEE, Ron, K6XC, Dee, N6EJU, Dave WA6OFI, Members present were Parky, K6IMV, N6EEQ, Joe WA6DQN.

Correction to the minutes as follows:

Silent Key Plaque to be placed in the Red Cross Building. (name plate)

M.M.S.P. The minutes be accepted as corrected.

Discussion to place on the possibility of bulk mailing the first meeting of the new Board will take place on Dec. 14, 1981. The Club Roster discussed and Dick KT6X, volunteered to call Doug, W6KLM.

Job Discriptions for committee chairman being prepared and corrected by Dick KT6X. Treasurer Dick KT6X reports \$1,687.83 in savings and \$175.11 in checking.

Emergency Coordinator Dave WA6OFI reports that the heavy rain fall has not created any problems as yet..

Prize Chairman Joe WA6DQN reported that \$94.00 was taken in at last meeting which gives us \$218.95 for Christmas party prizes. Discussion took place on the manner of conducting the drawing and the board agreed to go back to the old way.

M.M.S.P. That \$50.00 be added to the Coffee fund.

Christmas Party final details discussed.

M.M.S.P. to give Christmas party chairman \$150.00 for necessary expenses.

Discussion took place concerning changing the date for getting ballot out.

M.M.S.P. To change By Laws and Distribute Ballots one month earlier.

Picture and license received and will be given to proper person to be placed at Red Cross W6LGW Station.

M.M.S.P. That the CARRIER be cut off with the January issue to unpaid members.

Petition submitted and properly signed will appear in next CARRIER

M.M.S.P. that the meeting be adjourned at 10:10 P.M.

Respectfully submitted
Dee Koester, N6EJU
Secretary

Volunteers are needed to help set up and take down tables and chairs before and after the Christmas Party. Sunday Dec. 13th at the Pleasant Hill Recreation Center. Doors open at 6:30 Thank you all for volunteering. Lets have a real good time.

The President's Corner....

HI FOLKS,

This is the last you'll be hearing from me. At the next meeting I'll be passing the gavel into the most capable hands of president-elect, Dick Brown. GOOD LUCK DICK. I want to give a final thanks to all the club members for their support of our officers and committee chairpersons.

As I look back on this year I am proud of our successes and of the memberships co-operation. Please continue to give the same co-operation to the new officers and chairpersons. They will be needing you to continue with your help.

SEE YOU AT THE CHRISTMAS PARTY.

73's

Bill

P.S. Rumor has it that Jerry, WA6CUP is the president of the Southern Chapter (HiHi)

We the undersigned petition that the following changes be made to the By Laws in order to afford all members an opportunity to vote;

Change Article VI Sec 1.1 to read
August instead of September

Sec.1.3 to read
September instead of October

Add Sec 1.4 Ballots
shall be mailed with the October CARRIER

Parky Parkinson K6IMV

Ron Luttringer K6XC

David L. Greenhill WA6OFI

Joseph Gregory WA6DQN

D.F. Bertrand N6EEQ

Nancy Hodgson KA6IZI

Richard S. Brown KT6X

M.D.A.R.C extends our deepest sympathy to Dwayne Eskridge, W6LKE and his family for the loss of his father.

DOOR PRIZES

Throughout the year the MDARC has benefitted from contributions from the firms which advertise in THE CARRIER. Their donations far exceed the cost of printing their advertisements, and thus subsidize our newsletter. We thank: Art Mayhoff of The Base Station, Bob Ferrero of Ham Radio Outlet, Jim Allan of J & J Enterprises, Russ Wood of Computerland in Concord Jim Bash of Bash Educational Services, and Jim Presley of Can-O-Rama for their generous support. You can show your appreciation by patronizing these advertisers.

Microphones have always fascinated me. Very little attention is given them in Ham literature. I never can quite believe the high prices demanded for all sorts of things these days. I'm really still living in 1935 when ham-gurger sold for two pounds for a quarter. (That price also included the oatmeal and sawdust mixed in by the butcher.)

Anyway, it pays to compare the price of a new mike with the cost of crystal elements (for high impedance) and electret elements (for low impedance) at Radio Shack. Why not home brew a mike using one of these elements? A hand mike ought to be easy using a small plastic box, a mike element and a push button switch. It ought to be simple to install a solid state mike amplifier, if you wish, to make a power mike.

I've seen a couple of home brew mikes made by WA2ZHC, Nelson Streeter. They don't look as slick as a D-104, but they work fine!

Thanks to rags review Nov. 1981
Liverpool, New York

PUSHEY, PUSHEY PUSHEY!

That's Jim, KA6PKA, ie. impatience, personified.

Jim, finished our Class and got his Novice ticket on May 19, 1981, Kept pushing, got his Tech, July 7, 1981, Push, Push, General on Oct. 21, 1981, Grunt, Grunt, Advanced Dec. 2, 1981.

Six and a half months from the starting blox to Advanced, not too shabby for an ex CB'r who is an Auto Mechanic by trade and Majored thru school in under water fire-fighting.

Ed

THE SOUTHERN CHAPTER..... news from down south

First off, congratulations to the newly elected leaders of M.D.A.R.C. When I received my ballot with the last edition of the Carrier I had to chuckle at my nomination for office. I certainly don't mind being a nominee for technical purposes (i.e. there must be at least two candidates for each office) But you can imagine how quickly I would have gone broke commuting to the east bay area for meetings. I can hardly bring myself to spend the \$1.20 for the bridge toll on the Coronado-San Diego Bay Bridge much less cough up air fare from San Diego to S.F.O. or Oakland.

By the time you read this there's a chance that I will have had an eyeball with some of you in person. The kidnapping case we had down here last summer is scheduled for trial in December and the defense attorney has asked for a change of venue to the bay area. We'll have to wait and see what happens, but if my call is heard on the Mt. Diablo two meter repeater you'll know the reason.

As this column is being written the fog horns in nearby San Diego Bay are blowing in the background. Visibility tonight is zero-zero. First big fog since we've been in Coronado. It's so thick that when XYL Pat and I went for our nightly walk we couldn't even see the biggest tower and tri-bander the the city that of fellow Parky net check in W6HQL, Art.... Coronado's finest.

Rumor has it that W6BSL (Orv who?) has been in the Mt. Diablo area of recent and was actually heard on the air on two meters. Orv you're missed on 3895. If you are absent too much longer I'm going to bring a gang of Southern Chapter members up to Huntington Beach for an antenna party just to get you back on the air.

For those who may not follow the "off season" baseball action, Joe, WA6PVA, entered the free agent market and was recently drafted by five teams. Seattle, (closest to home), Oakland (they certainly can't forget him), Toronto (on the shores of lake what?), Pittsburg (maybe a new member of the family) and St. Louis (beneath the golden arches). Actually there are quite a few of us in the San Diego area who would

like to see Joe get signed by a national league team and promptly traded to the Padres. We have a great in-season home in Coronado (only 20 minutes from the ball yard) all lined up. A tower and tri-bander as well as a great Pacific Ocean ground plane comes with the deal.

Finally, for those who may be wondering, processing time at the F.C.C. for ham licenses is now taking about five weeks. Eldest son Chris received his ticket just a few days ago and is now KA6RPR. Those, like Parky, who know of Chris' interest in horses, horse training western riding, etc. have already suggested some great phonetics* "Keep all six red ponies running". Look for him horse-back mobile on the Southern California repeaters in the near future.

Until next time

73! Jerry WA6CUP

OUR CARRIER FOLDERS, STAMPERS, MAILERS

During the year 1981, these members and their wives gathered together each month, and as they tried to say witty things etc. to each other, they folded, addressed, and stamped CARRIERS.

There was always a coffee break when they were half through with this routine; and after the routine there was usually a more genuine engorgement of victuals at a restaurant or at one of the homes involved.

Frank and Alma Calton
Parky and Lee Parkenson
Warren and Lois Peterson
Fred and Beth Sabott
Hal and Mildred Mumford

GIANT ANTENNA GETS OK

A scaled-down of Project ELF (Extreme Low Frequency), a giant antenna grid in Michigan that will improve communications with the U.S. Submarine force, has been approved. It will be operational in 1985 and will cost \$230 million.

The approved plan for ELF radio waves needed to penetrate the oceans' depths will consist of a grid requiring 56 miles of exposed cable in Michigan's Upper Peninsula. The modified system compared with original plans that required up to 2500 miles of buried cable.

From the Oct. 1981 MARCOGRAM
Montreal Amateur Radio Club inc.

FIELD DAY RESULTS IN

by
Don W6EEN

Field Day 1981 results were published in the November issue of QST and W6CX was the apparent high point/high QSO station in the East Bay Section.

The Club operated from the top of Mt. Diablo in the 6 transmitter, under 200 watt, emergency power category on all bands from 160M thru 450 mH. The following table shows the QSO breakdown by band and mode. A breakdown by operator appears elsewhere in this issue of THE CARRIER.

	CW	PHONE	TOTAL
160M	7	5	12
80M	24	135	159
40M	80	445	525
20M	93	581	674
15M	128	389	517
10M	18	239	257
6M	-	12	12
2M	-	283	283
220mH	-	47	47
450mH	-	3	3
Novice Station 21	-	-	21
		QSO TOTAL	-2510

Our claimed score of 5762 points was increased at ARRL headquarters by 900 points earned for 100% emergency power, publicity, a message to the section SCM and for messages handled.

Our final score of 6662 points placed us 6th out of 36 in the 6 transmitter category. Our 2510 QSO's placed us third by this measure in that same category.

The top point score this year was 16,437 points and the top count was 11,201 QSO's. Our performance was such that 99 entries scored more logs submitted to ARRL showing activity by 4559 stations and 23,816 operators in this 45th annual Field Day.

Club involvement was substantial this year with about 50 club members identified on the mountain top. With considerable open time on the sign up sheets at each operating position, everyone who wished had all the operating time they wanted.

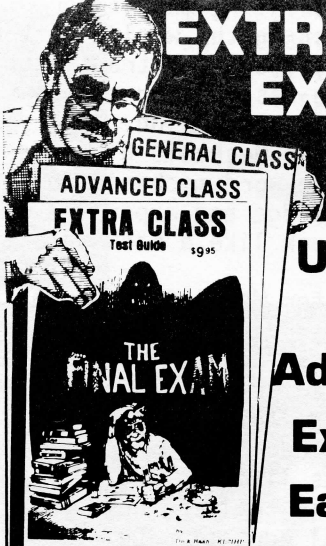
While Field Day is not an established "contest" as such, it is apparent that most participants gauge their performance by QSO count and point total. A study of the QST results shows that generally the QRP multiplier is critical for high point scores and high power appears to permit high QSO count.

Interestingly though, this year the high point/high Q scores of 16,473/11,201 were made by the same group running 16 rigs in the IKW category.

A hard look at the 2, 3, and 4 transmitter categories shows that the advantage of GW contacts over phone is an important consideration also. These are the categories where by far the greatest number of entries occur.

Field Day means different things to each of us. The Club seeks participation from the membership and your feedback is important. Last years (1980) effort was a more structured contest type event, while this year (1981) the attitude was a more laid back operation. Let the Club leadership know what you prefer so that plans for the 1982 Field Day can proceed.

This is a home brew rig on this end -
I replaced the power cord on a commercial rig.



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EYEBALL QSO's in DL Land

by Doug Smith WA6GON

My recent trip to Germany had many high points. Probably the highest were the opportunities I had to have eyeball QSO's with German Radio Amateurs (Funk-amateurs). I was received with overwhelming hospitality and friendliness at DARC chapter meetings, on the air, and in amateur's homes. Mitch Wolfson DJØQN/WA6GSN whom I visited in Munich, Bavaria arranged all of my visits. It was an experience I will always be grateful for.

Pictured on these pages are just three of the amateurs I had a chance to meet. In another CARRIER I'll share with you the stations of other amateurs and some of my experiences.

I would like you to meet Tony Reindl DL6MG, Eddie Schott DK3CI, and Wendelin Blokesch DG2ML. Mitch and I visited Eddie, DK3CI, first. We went to his home one cold wet Bavarian evening. A great time to be indoors! I met Eddie's beautiful wife Angela, also a ham, DG3MX. Angela served Mitch and I delicious sausage, bread and home made pastry that was out of this world! I musn't forget the beer! The best in the world. After the goodies Mitch acted as a translator and I learned some fascinating things about Eddie and his profession.

Eddie is a Master Mechanic by profession. Don't let the word mechanic fool you. Eddie's knowledge and expertise makes Mr. Good Wrench look like a back yard tinkerer.

To become a Master Mechanic a German goes through a most difficult apprenticeship, classroom instruction and final exams that would make anyones hair curl. The lengthy process though trying was well worth it for Eddie. He knows automobiles and trucks like the engineer that designed them. His training not only included a technical education but study in business ethics, law and accounting. By German Law only a Master may open his own business. Eddie doesn't own his own business but, the road to owning is now wide open. Eddie is a true Master!

Eddie's love and enthusiasm for his wife and son, and his work is matched by his attachment to the amateur radio hobby. His knowledge through technical study has enabled him to build a station of which I was truly envious. Eddie is a shining example of the pride the German people feel for a technical education.

Close behind is Eddie's young son who is an active HO train hobbyist and model builder. He's a credit to his dad and mom.

Next comes Tony, DL6MG. I spent a whole day with Tony seeing sights in Munich most ham tourists can never hope to see. Tony and his wife went out of their way to make a total stranger welcome in their home and their country. The warmth of their friendship I will long remember.

Tony's wife Anneliese is also a ham, DC9MR. Anneliese didn't speak English But I think we communicated just fine with our smiles. She is a wonderful woman and a terrific mother, who has raised two pretty and intelligent daughters, 12 and 17 years. Anneliese is a Class C licensee. (2 meters and above) She operates primarily two-meters so she can keep up with Tony. I could see Tony was very proud of her.

There's no one in Bavaria that Tony doesn't know it seems. He's also one of the greatest amateur radio scroungers of gear at a good price I've ever met. Presently he is negotiating with the owner of an old airport to obtain an abandoned control tower as a ham station for the DARC C-26 chapter. At this writing everything looks good. NDARC wishes you luck Tony.

Tony's resourcefulness is nothing compared to his technical expertise in amateur radio. As you can see in his photograph, he has put quite a station together. (his low band beam, dipoles and satellite array occupy alot of air-space over the house.) Tony is active on 80-10 meters, two-meter FM and sideband, OSCAR and RTTY. He operates HF mobile with the handy Kenwood TS120 from his car feeding no less than a one-kilowatt linear fed with special storage batteries mounted in the trunk.

Tony is an Engineer who works as a plumbing and air-conditioning inspector/supervisor for the City of Munich. His responsibilities include anything that has to do with pipes and plumbing in homes and industry. What he says goes.

Anneliese and Tony made me feel like a treasured friend. The affect of the friendship is kind of hard to express in words...Goosebumps is a good word I guess, the good kind!

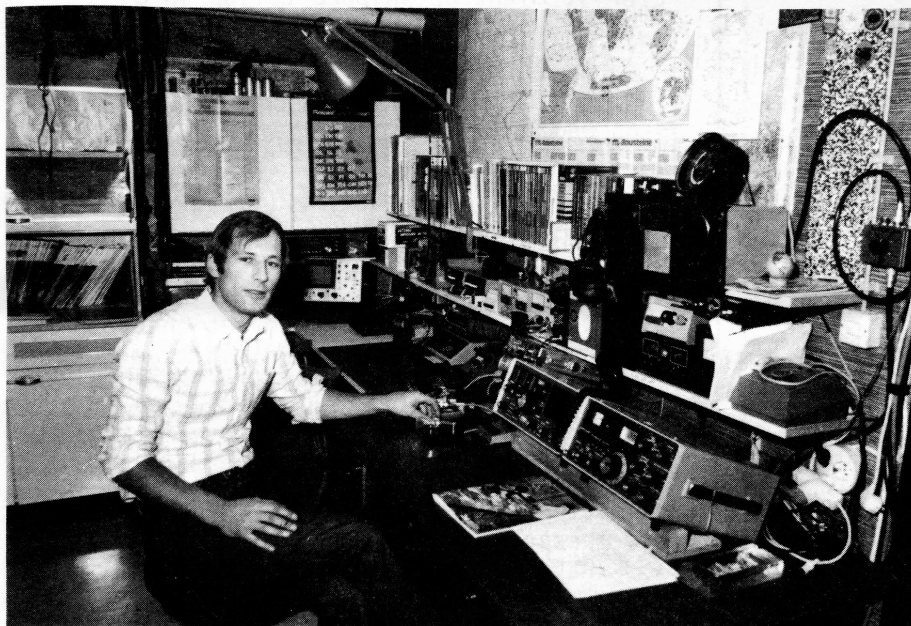
Wendelin, DG2ML (Class C), was at Eddie's place sharing the good company and light snacks the night I met him in person. He's quite a character! Wendelin is a very humorous, easy going, fun lov-

Cont'd on page 8

DL6MG

TONY

Check out the Collins receiver, Kenwood 2KW Linear, Computer RTTY, CW Keyboard and TU with video monitor. Hard copy TTY is out of the picture to the left.



DK3CI

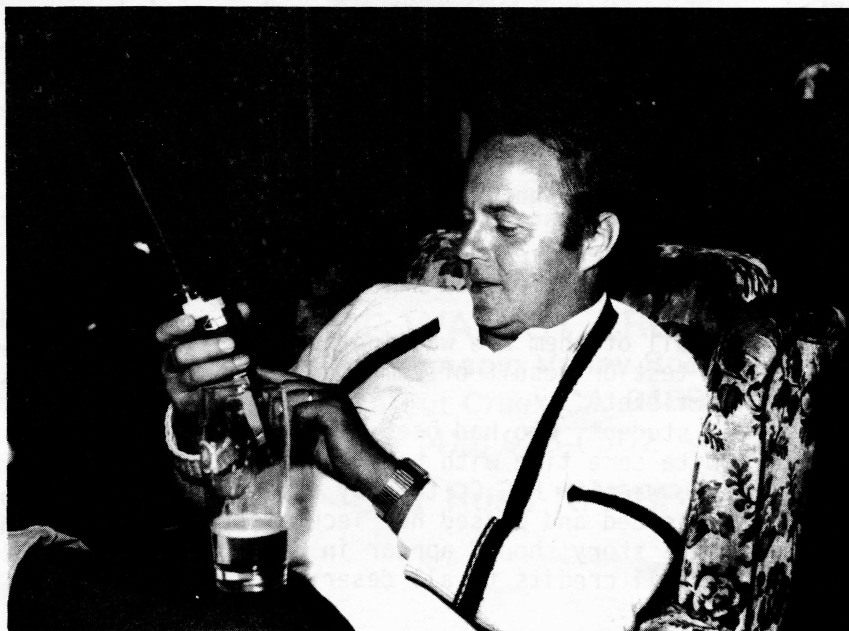
EDIE

Edie's station, 80-10 Transceiver, general coverage capability, and a complete service bench, Edie doesn't speak English, but with Q codes and a little help from his wife - low band contacts are a snap.

DG2ML

WENDELIN

DG2ML shown punching codes into his FT-207 HT with a "Pils Beer" perched expertly on his knee. Wendelin is a class C amateur (2 meters and above)



Eyeball cont'd

ing person with an uncanny knack for conversation. I discussed everything from beer to politics to amateur radio with him finding him also to be very sharp and aware. Someone in DL land has to persuade Wendelin to get his Class B ticket so he can talk with us on the low-bands! (Got that Mitch!)

Wendelin is fluent in English as someone in his position has to be. Wendelin is in top management at Texas Instruments in Munich. His favorite State in the USA is, you guessed it TEXAS! We shared our impressions of the Lone-Star State since I had been to visit my father's family there many times. Hopefully I've convinced him to visit us Californians one of these days.

I didn't get a chance to see Wendelin's station. The week we were to get together for a few pictures was marred by the passing of his wife's mother. MDARC's condolences and prayers go out to the Blokesch family. I did however get a good photograph of Wendelin as I would like to remember him, however, In one hand is his FT-207 HT, and perched on his knee his favorite German beer, Hi.

Germany itself was like walking into a story book. The country was a photographers paradise and a culinary delight. You should have tasted Waltraud Wolfson's (Mitche XYL) home cooking. In another issue I'll hopefully have more pictures and impressions to share with the club. Until then....

WA6GON
ex WA6GON/DL

Word is out and we are sure that a full story will appear in next months issue:

Last week was the last nite of our Amateur Radio classes and just a part of the deal was that in the Novice class, 75% of the original enrollment finished the entire course and on that nite the last one passed their code test!

Now all of them are waiting for their theory test or result of same for their Novice ticket.

One student, who had been a Novice for quite some time with her gear, in storage, went to F.C.C. the day after classes ended and passed her Tech test

A full story should appear in Jan. giving full credits to all deserving instructors.

The Awards and Trophy Committee has been working since last Christmas in order to make this years party even more fun.

Doug, WA6GON, has been driving everyone in town nuts, trying to get them to drink more beer and soda pop from cans and save the aluminum for salvage sale, thus holding club cost down.

Along with the regular top Awards of "Ham of the Year" and the "Kilroy Key" will be a lot of recognition in store thru special awards for many other members that just don't stop working.

The wind up will be the "Roast Trophys" for the many deserving members that wouldn't dream of getting any type of Award.

You may be on this list (and it is a long list) so you had better be there, or it might be shipped to you in a Piano Box - Collect!!

THIS IS A FIRST TIME!

All hands, including our sick little secretary Dee, N6EJU, have busted our back, to get this issue out BEFORE our Christmas Party, so you have no excuse for not attending because you weren't reminded.

For those of you who get there or can't get there or even won't get there, HAPPY AND SAFE HOLIDAYS TO YOU FROM US IN CARRIER SLAVELAND!!

This issue of "THE CARRIER" was written almost wholly by members with a message.

Have you ever submitted an article, (even a want ad?)

Why not, you would be surprised at how much your fellow member is interested!

It is the feeling of all who work with your Club paper; that it should be a full Club effort.

Try doing your bit, write it down or if you can't write, call the Editor, he'll put it together for you.

Every month we get Club papers from all over the Country and Canada and "THE CARRIER" has been quoted by papers from California to Montreal, Canada to Mass. Our Tech writer WA2CEP is being followed and quoted, with his by line in several other Club papers along with other bits and pieces from "our" paper, even to copying headings like; "The Presidents Corner" that our famous printer, so slyly worked up.

LET JUSTICE....

Recently, a case of justice was brought to my attention. A two meter HT had been stolen from a company van driven by a friend of mine while it was parked and left unattended. The HT was a Wilson MKII crystal rig.

Shortly after the theft was discovered, strange and illegal transmissions were heard on a local repeater. Immediately, concerned hams that belonged to the repeater club, inclusive of the owner of the stolen rig, began a direction finding exercise to find the origination of the offending signals.

During the course of listening to the strange transmissions, the OP stated that he was having battery problems, and that he had purchased some penlight batteries, but for some reason they didn't last very long. At this point, the owner of the stolen rig knew he had a live one, and assumably the thief!!!! The owner at this point, asked the thief to switch to channel 2 on his rig, since the frequency that they were using at the time was busy. (the owner knowing all the while what frequency was on Ch. 2 on his stolen rig) The thief agreed, switched to Ch. 2, and Voila!!! the thief appeared on frequency

Now he had him, so he offered the thief a battery charger for one dollar to alleviate his battery problems. The thief agreed, they both agreed on a set time and place to meet to consummate the deal and went off the air.

At the meeting of the owner and the thief, the police were present (called by the owner), the thief was there, and the owner proved it was indeed his HT by the Serial No. The thief was arrested on breaking and entering, Grand theft, and operating illegally on 2 meters.

Hearing this story made my day, and I hope it made yours

Joe KA6BUD

From the July 1981 SBARA (Ground Plane)

"If you mess with the bull, you get the horn".

Frank Thornburgh WA6GYR

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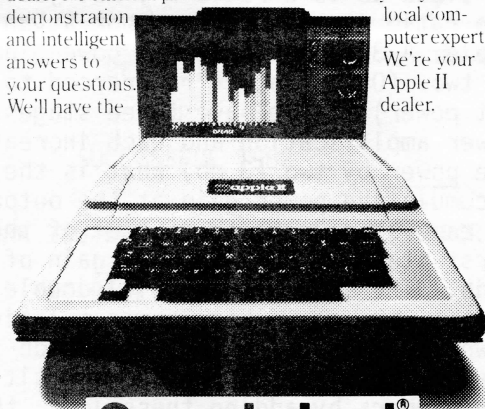
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See Russ-KA6BPN

TECHNICAL CORNER

Jim Lisson WA2CEP

BELS AND RATIOS

Company "A" offers a "Super" antenna with "7 db" gain. Company "B" just introduced their "improved" version of the same antenna with "9.3 db" gain. I have one and I measured only "3.5 db" gain. Confusing? You Bet!

I mentioned a lot of information but never did give enough data to make a comparison. I listed three values and the units of each was "db". Remember- "db" always means a ratio.

$db = 10 \log_{10} \frac{P_1}{P_2}$ or $20 \log_{10} \frac{V_1}{V_2}$ and $20 \log_{10} \frac{I_1}{I_2}$

Because there are a number of "standards" in use for antenna gain it is very important that we know what is used for reference. A 7 db gain sounds good, but compared with what?

WHY db?

Since db is a ratio why not just use the ratio itself? Let us look at an example. A 3 db increase \approx a power increase of two. (Output power referenced to input power). If we have three stages of power amplification and each increased the power by two (3 db) what is the accumulative power gain at the output of each stage? At the output of the first stage we have a power gain of 2 or 3 db. The second stage will double the power again so we have a accumulative power gain of $2 \times 2 = 4$. Because db is the log of a number and we can multiply two numbers by adding these logs, the accumulative gain in db is $3 + 3 = 6$ db. At the output of the third stage the total power gain is $2 \times 2 \times 2 = 8$ or in db $3 + 3 + 3 = 9$ db. That may not convince anyone so lets say that the power gain of the three stages was 1.26, 1.59 and 2.51. The total power gain now is:

$1.26 \times 1.59 \times 2.51 \approx 5.01$. The power gains I used are the same as 1 db, 2 db and 4 db, and the power gain in db is $1 + 2 + 4 = 7$ db. I find it much easier to add than to multiply. Remember that this system was in use long before the hand held calculator. If any of the above were a loss, such as in a filter, then we would divide the ratio or subtract the db. There are times when the ratio is used though.

ABSOLUTE POWER LEVELS IN db

Because db is a ratio what if we specified a reference power level? One common reference is one M.W. This is written as dbm. Now zero dbm is one milliwatt, + 3 dbm is 2 milliwatts, + 10 dbm is 10 milliwatts and - 20 dbm is .01 milliwatts.

With this in mind we can now specify a power level at the input of a receiver, for example, in dbm. We can now also use the gain or loss of each stage or circuit in that receiver in db and just add or subtract as indicated and know the power level at any point in dbm, or in volts if the "impedance" at that point is known. We can convert dbm into milliwatts and $E = \sqrt{P R}$

E AND I RATIOS IN db

We have been working so far with power ratios and db. Voltage and current ratios can also be expressed in db but both voltages or currents should be across or through the same "impedance". (If the "impedance" is not the same the best way that I know of is to first convert both to Power, $\frac{E^2}{R}$ or $I^2 R$, then use $10 \log_{10} \frac{P_1}{P_2}$). As an example when the "impedance" is the same. Given: 1 watt of power dissipated in 1 ohm of resistance. This works out to 1 volt across the resistor and 1 amp through the resistor. If we now increase the power to 10 watts (+ 10 db change) we now have 3.16 volts and 3.16 amps. The power ratio in db = $10 \log_{10} \frac{10W}{1W}$. The \log_{10} of $\frac{10W}{1W}$ or 10 is 1 and 10 times 1 = 10 db. The voltage ratio in db = $20 \log_{10} \frac{3.16V}{1V}$. The \log_{10} of $\frac{3.16V}{1V}$ or 3.16 is 0.5 and 20 times 0.5 = 10 db. This shows why the E or I ratio in db uses a multiplier of 20 rather than the 10 that is used with power ratios. (The 10 converts Bels into Decibels). It can also be shown that if the "Z" is constant, the Power varies with the E^2 or the I^2 . To square the log of a number we multiply by 2. So the 10 turns into a 20.

SOME OTHER RATIOS

In audio work a reference power level of 6MW is sometimes used. This works the same way as dbm (1MW reference).

In telephone systems a special meter is used (specific inertia of the movement among other things) with a zero level of 1 mv across a 600 ohm line (6 MW). This meter measures "sound levels" in VU and does not equal D B unless a constant tone is used.

Tech. (cont'd)

In some old books you will see something called a "NEPER". This is like db but the natural log is used (base e).

The "db" scale on your VOM must be used with care. Note what the "zero db" level is. It may be 1 MW or 6MW or what have you. Also remember that you are using a voltmeter to indicate relative power so the absolute db scales are only good across a given value of "Z". Relative db are good just so long as the "Z" is the same for both readings.

The big thing to remember is that db always is a ratio, and that 3 db is always \approx a power ratio of 2. As an example - a 3RD order IMD that is -15db down is twice as strong as one that is -18 db. (using the same Pref) Also one that is -27 db down is twice as strong as one that is -30 db. (using the same Pref once more).

The "S" meter on our receivers, db over S-9 sounds good but what is S-9?

73 Jim WA2CEP

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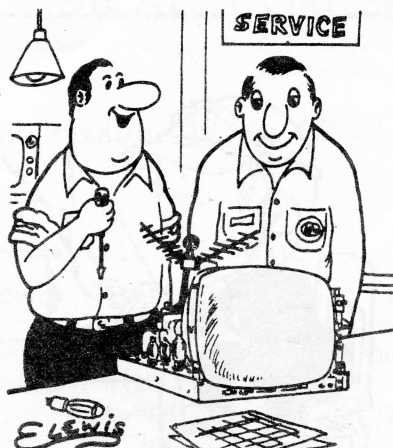
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REPEATER NEWS

I was nominated at the last repeater meeting to fill the space so graciously allocated by our Editor. So I will first say that those who missed the last repeater meeting on November 17, 1981 missed a very good meeting. Paul Parker WB6DHH showed slides of the repeater currently being used on the hill and the new repeater that is being built to go up very soon. The present repeater will then be a back-up repeater or portable repeater to be used at emergencies etc. Paul has done a very fine job. It was a pleasure to attend a repeater meeting where there was no controversy. In fact it was like riding a railroad as you will find out if you continue to read this article. The repeater has used all the money voted upon for the repeaters being built. Additional money is needed to purchase a new antenna. The old Phelps Dodge antenna cannot be fixed. Twice we tried and found out it is too old to stay fixed very long. The repeater group voted to increase the first quarter dues from \$5.00 to \$10.00 of which \$5.00 of it will go to pay for the antenna. The dues will go back to the regular \$5.00 for the remaining quarters of 1982. If one desires to pay for the entire year it will be \$25.00 instead of \$20.00. A bargain at any price. The repeater sounds great at 25 watts and the new repeater should be even better at 75 watts and the new antenna. We took in two new members, John Anslow WA6DPJ and Ashley Greenwood KA6LWA, welcome aboard. Helen Holt KA6NRO (New Radio Operator) received her novice license and is a member as the XYL of Charles Holt WA6TPE. Nifty phonetics for a novice. The "Railroad session" then began as officers were elected for the coming year. The following were nominated un-opposed for the following positions. Cecil Heden N6EBO Chairman, Dee Koester N6EJU Secretary, Norma Davis N6EJZ Treasurer, Doug Lortsher W6KLM Member At Large, Terry Lange WA6NTG Member At Large, Paul Parker WB6DHH Two Meter Technician, and Don Gilley WB6VHW 220 Technician. This is a fine slate of officers which shows that the repeater is again strong and working like a charm. Well there is not too much more to say other than get on your repeaters as they both are working great. In fact two new antennas are soon going up on the 220 machine. This should fill part of the space left blank in the CARRIER. I hope our chairman or his nominated "Patsy" will do better next month.

Yours, Jay D. Caldis KT6Y Trustee

W6CX 1981 FIELD DAY TABULATION

by W6CU, Retiring Trustee for W6CX

Here's a list of operators, ranked according to the points they made for the club during Field Day 1981 as indicated by the D.D. log.

CW contacts count as 2 points. Phone contacts count as one point.

OPERATOR	TOTAL POINTS	NUMBER OF CONTACTS		
		CW	PHONE	TOTAL
N6DTU	382	101	180	281
WA6NHD	338	64	210	274
KT6X	214	19	176	195
N6CKM	195		195	195
WA6CIE	182		182	182
KB6OH	180	90		90
KA6DKW	169		169	169
AI6V	119		119	119
WB6TEE	97		97	97
WA6LPR	87		87	87
WB6UMT	69		69	69
NA6Q	67	18	31	49
KA6NAY	65	4	57	61
WA6SEU	65	8	49	57
WA6GYR	49	16	17	33
W6EEN	48		48	48
WB6PQM	47	11	25	36
K6XC	47	7	33	40
WB6YRD	45		45	45
N6DN	44		44	44
WA6AEO	43		43	43
WB6BBS	42		42	42
KA6IVG	33		33	33
WA6SWD	31		31	31
KA6PKA	28	14		14
N6EYU	23		23	23
KA6IZI	22		22	22
W6EEQ	17	3	11	14
KA6ODX	9		9	9
KA6DPW	8		8	8
KA6ECK	6		6	6
KA6KIE	6	3		3
KA6Q	5		5	5
KA6PWW	4	2		2
N6FEJ	3		3	3
KA6JGP	2	1		1
WA6MWU	2		2	2
KA6PPT	2	1		1

The grand total number of contacts by operators, if added up, would not quite agree with our official report to ARRL mainly because about 3% of the contacts as recorded in our F.D. log did not have the call sign of the operator written down.

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LATE FLASH

Joe Rudi WA6PVA, signed a 2 year contract with the Oakland "A's". Joe and his family are looking forward to returning to the Bay Area. Joe has kept in contact with many Club members on the 3895 net since he left the "A's" in 1976.
CONGRATULATIONS JOE ON COMING HOME.

